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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/003,071 | 12/06/2001 | Noel McDonald | Q67567 | 4872 |

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EXAMINER

LEE, BENNY T

| ART UNIT | PAPER NUMBER |
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2817

DATE MAILED: 01/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 6 Pa 2001 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-15 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-15 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable;
☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections **MUST** be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☒ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

Art Unit: 2817

The disclosure is objected to because of the following informalities: Page 3, lines 15, 17, 22, note that "said" should be rewritten as --the-- for the clarity of description. Page 4, between lines 16 and 17, note that the subheading --Detail Description of the invention-- should be inserted; line 17, note that reference to "Figures 1 and 2" should just reference --Figure 1-- since the subsequently recited reference numbers predominantly appear in --Figure 1--; line 18, note that -- (also see Figure 2)-- should follow "2" for clarity; lines 27, 29, note that --(see Figure 3)-- should follow "13" and "B", respectively; line 31, note that --(see Figure 4)-- should follow "12b" for clarity.

Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that in the following drawing figures, the following reference labels need explicit description therewith: Fig. 4 (4); Figs. 5, 7, (I, T, B); fig. 7 (C).

Appropriate correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the movable dielectric between the board and ground plane (cl 9) and the remote servo (cl 12) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Art Unit: 2817

Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 1, with regard to "the computer optimization means", the specification fails to adequately describe this aspect of the invention such that one skilled in the art is not enabled to make and use the invention intended by applicant.

In claim 5, similarly the "radio frequency analysis" and "optimization computer program" are not disclosed in such detail that one skilled in the art is not enable to make and use the invention as intended by applicant.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, note that "the adjacent transmission line" lacks strict antecedent basis.

In claim 4, note that it is unclear which one gap of the plural "gaps" is intended by the recited "said gap".

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2817

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, 6, 7, 8, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu.

Xu (fig. 1) discloses a phase shifter for a phase antenna array (e.g. Fig. 4). The phase shifter comprising conductive traces (3) disposed on a dielectric substrate (A) which is disposed over a ground plane (B), as best depicted in Fig. 3. A dielectric member © having at least three individual dielectric protrusions (e.g. 4, 5) extending therefrom such as to provide air gaps therebetween is provided to overlap the conductive traces. The entire dielectric member © moves transversely along tracks (7) by some drive mechanism to provide varying degrees of overlap. Although, not explicitly disclosed, obviously one of ordinary skill in the art would have been able to optimize for desired impedance characteristics.

Art Unit: 2817

Claims 1-3, 5-9, 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hampel et al ('462).

Hampel et al (figs. 13, 16) discloses a phase shifter arrangement for a phase antenna array. The phase shifter arrangement (1316, 1616) comprises three or more dielectric phase shift segments (1350, 1360, 1370; 1650, 1660, 1670, 1680) extending from an edge of a movable or driven element (1318; 1618) such that the phase shift segment overlaps the corresponding conductive trace segments thereby effecting a desired phase shift. Note that air gaps/spaces are present between adjacent phase shift segments. Furthermore, note that the phase shift segments are interposed between the signal traces and a ground plane (e.g. see Fig. 5B). Although not explicitly disclosed the manner of how to optimize the spacing and gaps of the phase shift arrangement would obviously been within the purview of one of ordinary skill in the art.

Note that in each of the above rejections, the optimization by computer program, being a method limitation, has not been given any patentable weight.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hampel et al ('030) discloses a phase shift arrangement similar to Hampel et al ('642).

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308-4902.


BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817